

TSMC-00-680B

January 5, 2004

To: Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Fr: George O. Saile, Reg. No. 19,572  
28 Davis Avenue  
Poughkeepsie, N.Y. 12603

Subject:

Serial No. 10/696,430 10/29/03

Min-Hwa Chi

A GATE-CONTROLLED, NEGATIVE  
RESISTANCE DIODE DEVICE USING  
BAND-TO-BAND TUNNELING

#### INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation  
In An Application.

The following Patents and/or Publications are submitted to  
comply with the duty of disclosure under CFR 1.97-1.99 and  
37 CFR 1.56. Copies of each document is included herewith.

#### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being  
deposited with the United States Postal Service as first class  
mail in an envelope addressed to: Commissioner for Patents,  
P.O. Box 1450, Alexandria, VA 22313-1450 on January 27, 2004.

Stephen B. Ackerman, Reg.# 37761

Signature/Date

Stephen B. Ackerman 1/27/04

U.S. Patent 5,675,295 to Brebels et al., "Microwave Oscillator, an Antenna Therefor and Methods of Manufacture," teaches a microwave oscillator device and a method of manufacture thereof.

U.S. Patent 4,745,374 to Nishizawa et al., "Extremely-High Frequency Semiconductor Oscillator Using Transit Time Negative Resistance Diode," discloses a transit time, negative resistance device that performs carrier injection by both avalanche and tunneling.

U.S. Patent 4,358,759 to Stewart et al., "Microwave Movement Detector," teaches the application of a BARITT diode in a microwave movement detector circuit.

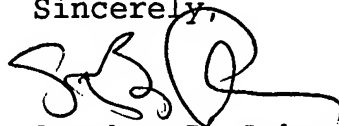
U.S. Patent 5,617,104 to Das, "High Superconducting Tunable Ferroelectric Transmitting System," discloses a tunable ferroelectric transmitting system where a negative resistance diode, such as an IMPATT, is used.

In the article, "Monolithic IMPATT Technology," by Bayraktaro, in Microwave Journal, April 1989, pp. 73-86, a monolithic IMPATT diode is described.

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In the article, "Comparison of GIDL in p+-poly PMOS and n+-poly PMOS Devices," by Lindert et al., IEEE Electron Device Letters, Vol. 17, No. 6, June 1996, pp. 285-287, discusses a related matter concerning gate-induced drain leakage (GIDL) in LDD MOSFETs.

Sincerely,

A handwritten signature in black ink, appearing to read 'SBA', with a large circular flourish at the end.

Stephen B. Ackerman,  
Reg. No. 37761

INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION

(Use several sheets if necessary)

Document Number (Optional)

TSMC-00-6808

Application Number

10/696,430

Applicant

Min-Hwa Chi

Filing Date

10/29/03

Group Art Unit

## U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5675295	10/7/97	Brebels et al.	331	105	5/8/96
	4745374	5/17/88	Nishizawa et al.	331	96	6/17/86
	4358759	11/9/82	Stewart et al.	340	554	6/10/80
	5617104	4/1/97	Das	343	700MS	3/15/96

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Portion of Pages, Etc.)

-	"Monolithic IMPATT Technology," by Bayraktaro, in Microwave Journal, April 1989, pp. 73-86.
-	"Comparison of GIDL in p+-poly PMOS and n+-poly PMOS Devices," by Lindert et al., IEEE Electron Device Letters, Vol. 17, No. 6, June 1996, pp. 285-287.

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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| \_\_\_\_\_ |

ASSOCIATE POWER OF ATTORNEY

I hereby appoint Doug Schnabel, registration number 47,927, as my associate attorney in this case. His telephone number is (517) 686-3462.

Please continue to direct all correspondence in this case to the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "SBA", with a long horizontal flourish extending to the right.

Stephen B. Ackerman,

Principal attorney of record